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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/730,257

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Takeshi Hirose

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GLOBAL IP COUNSELORS, LLP
1233 20TH STREET, NW, SUITE 700
WASHINGTON, DC 20036-2680

EXAMINER

DIXON, ANNETTE FREDRICKA

ART UNIT

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3771

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/730,257	Applicant(s) HIROSE, TAKESHI	
	Examiner Annette F. Dixon	Art Unit 3771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-58 and 68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-58 and 68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the request for continued examination filed on November 9, 2007. Examiner acknowledges claims 30-58 and 68 are pending in this application, with claims 30, 36, 40, 45, 49, 54 and 58 having been currently amended and claim 68 having been newly added,.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 9, 2007 has been entered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 30-58 and 68 are rejected under 35 U.S.C. 102(b) as being anticipated by Furtura (JP 11-020787 A).

As to Claims 30, 40, and 49 Furtura discloses an information processing device for a diver adapted to be used for diving with at least a first and second cylinders respectively containing a first and second mixed gases in which a plurality of diving gases are mixed with different mixture ratios for each of said first and second cylinders (Figure 3, elements 94) comprising: an oxygen partial pressure calculating and monitoring unit (60).

As to Claim 31, Furtura discloses at least one of said first and second cylinders contains oxygen as one of the diving gases. (Figure 3, elements 94)

As to Claims 32, 41, and 50, Furtura disclose the oxygen partial pressure calculating and monitoring unit includes: an oxygen partial pressure violation determining unit (98) configured to calculate an oxygen partial pressure and determine whether there is the possibility of oxygen poisoning or oxygen deficiency, and a notification unit (the combination of elements 10, 37, and 38) configured to notify the driver when there is the possibility of oxygen poisoning or oxygen deficiency.

As to Claims 33, 42, and 51, Furtura discloses the oxygen partial pressure calculating unit (60) is configured to execute a process that permits from said first cylinder to said second cylinder, when the driver selects to use said second cylinder while using said first tank, and upon a determination of no possibility of oxygen deficiency of oxygen poisoning based on an oxygen partial pressure value if said second cylinder is used (95).

As to Claims 34, 43, and 52, Furtura discloses said notification unit (the combination of elements 10, 37, and 38) is configured to notify the diver whether switching to said second cylinder is permitted by using at least one of display, alarm sound, or EL backlight. Specifically, Furtura discloses element 37 is an alarm sounding unit and element 10 is a display panel.

As to Claims 35, 44, 53, and 68, Furtura discloses a time keeping section (68) section configured to measure an elapsed dive time; a water depth gauging section (61) configured to detect a water depth value at a diving location of the diver in accordance with a preset elapsed dive time; and a diving information storage unit (the combination of elements 54 and 53) configured to store said elapsed dive time and said detected water depth value.

As to Claims 36, 45, and 54, Furtura discloses an information device for a diver adapted to be used for diving with at least a first and second cylinders respectively containing first and second mixed gases in which a plurality of diving gases are mixed with different mixture ratios for each of said first and second cylinders (Figure 3, elements 94) comprising: a switching condition storage unit (97) configured to store at least one switching condition during diving for each of said first and second cylinders, a switch destination cylinder selecting unit (5) configured to receive a user input for switching from said first cylinder to said second cylinder, while the diver is using said first cylinder; a safety determining unit (98) configured to determine whether there is a possibility of oxygen poisoning or oxygen deficiency if said second cylinder is used; and

Art Unit: 3771

a warning unit (the combination of elements 10, 37, and 38) configured to warn the diver when the possibility of oxygen poisoning or oxygen deficiency has been determined.

As to Claims 37, 46, and 55, Furtura discloses a cylinder information presentation unit (10) configured to present to the diver information about said second cylinder when the diver has selected to switch to said second cylinder.

As to Claims 38, 47, and 56, Furtura discloses the information about said second cylinder includes a mixture ratio of the diving gases in said second cylinder and diving condition information in a situation when said second cylinder is used. In the display (10) shown in Figure 1, the mixture ratio is disclosed by element 118 and the diving condition information such as maximum depth is disclosed by element 113.

As to Claims 39, 48, and 57, Furtura discloses the diving condition information includes a permissible non-decompression dive time or decompression diving instruction, and partial pressure. In figure 1 of the display the dive time is disclosed by element 112 and the partial pressure is disclosed by element 905.

As to Claim 58, please see the rejection of claim 33, which addresses all the recited elements. Furthermore, Furtura discloses a computer readable recordable medium (the combination of 53 and 54) for storing a control program for controlling with a computer (51).

Response to Arguments

5. Applicant's arguments filed November 9, 2007 have been fully considered but they are not persuasive. Applicant asserts the prior art made of record does not teach or fairly suggest an oxygen partial pressure calculating and monitoring unit configured to calculate oxygen partial pressure of each of the cylinders and to prohibit the diver based upon the resulting calculations of the possibility of oxygen deficiency or oxygen poisoning. Examiner respectfully disagrees with Applicant's assertion.

From a close reading of Applicant's specification, Applicant discloses: 1) "a switching error may lead to an oxygen deficiency" (Paragraph 0007), 2) the switching and selection operating modes are coextensive (Paragraph 0058), and 3) the switching function advises the diver by way of preventing or notification (warning) (Paragraph 0232). Utilizing the broadest reasonable interpretation of the claim language in light of the specification, it is clear that Applicant's use of the word "prohibit" extends not only to the use of an intervening structural element that prohibits the functionality of the device but also to the advisement via notification such as a warning displayed on the device to advise the user of dangerous situation. Inherently, both methods "prohibit" as defined by the Applicant the user of the possibility of the oxygen deficiency or poisoning. Therefore, the teaching of "prohibition" as disclosed in Furtura (JP 11-020787 A) Paragraph 0074 of allowing the user to protect himself/herself from oxygen sickness as a result of monitoring the displayed values teaches Applicant's invention.

Further, regarding Applicant's desired functionality of the oxygen partial pressure calculating and monitoring unit is under functional language as the device is only required to be capable of being configured to perform the desired functionality of the

Art Unit: 3771

device. Applicant is reminded, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this case, Furtura expressly discloses the ability of the information processing device to perform the functions recited.

Thus, in light of the aforementioned reasoning the rejection of the claims has been maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Annette F. Dixon whose telephone number is (571) 272-3392. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on (571) 272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Annette F Dixon
Examiner
Art Unit 3771

/Annette F Dixon/
Examiner, Art Unit 3771

/Justine R Yu/
Supervisory Patent Examiner, Art Unit 3771